



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/805,597	03/12/2001	Maria Cristina B. Estacio	18865005800	9290

20350 7590 05/08/2002

TOWNSEND AND TOWNSEND AND CREW, LLP  
TWO EMBARCADERO CENTER  
EIGHTH FLOOR  
SAN FRANCISCO, CA 94111-3834

EXAMINER

LEWIS, MONICA

ART UNIT	PAPER NUMBER
----------	--------------

2822

DATE MAILED: 05/08/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/805,597

Applicant(s)

ESTACIO, MARIA CRISTINA B.

Examiner

Monica Lewis

Art Unit

2822

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 25 March 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. This action is in response to the election filed March 25, 2002.

#### ***Election/Restrictions***

2. Applicant's election of claims 1-4 in Paper No. 7 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

#### ***Drawings***

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: a) 11 (See Figure 3). A proposed drawing correction, corrected drawings or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: a) 21 (See Page 2 Line 18); b) 40 (See Page 2 Line 28); c) 41 (See Page 2 Line 29); d) 40a, 40b and 40c (See Page 2 Lines 31-32); e) 50 (See Page 3 Line 1); f) 53 (See Page 3 Line 3). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
5. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "50" and "52" have both been used to designate clip (See Page 3 Lines 2

Art Unit: 2822

and 4). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

6. New formal drawings are required in this application because the quality of the drawings does not permit one to accurately visualize the components of the package. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Finally, for examples of proper drawings, in addition to selected rules of practice related to patent drawings and interpretations of those rules, see the "Guide for the Preparation of Patent Drawings" which is available from the Superintendent of Documents (see MPEP Introduction).

7. The drawings are objected to because there are two Figures labeled as Figure 1. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Specification***

8. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Art Unit: 2822

9. The disclosure is objected to because of the following informalities: Figure 4 is mentioned in the specification however there is no Figure 4 in the drawings (See Page 2 Line 31).

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claims 1-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is not clear what is meant by the following: a) "source attach area" (See Claim 1); b) "gate attach area" (See Claim 1); and c) "lead rail" (See Claim 4). Claims 2 and 3 depend directly or indirectly from a rejected claim and are, therefore, also rejected under 35 U.S.C. 112, second paragraph for the reasons set above.

***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2822

13. Claims 1 and 4, as far as understood, are rejected under 35 U.S.C. 103(a) as obvious over Cheah et al. (U.S. Patent No. 6,040,626) in view of Tandy (U.S. Patent No. 5,986,209).

In regards to claim 1, Cheah et al. ("Cheah") discloses the following:

a) a leadframe including a plurality of leads (12a and 12b) extending therefrom, a first source attach area on a first surface of the leadframe and a first gate attach area, and a second source attach area on a second surface of the leadframe and a second gate attach areas (See Figure 4, Abstract, Column 3 Lines 31-47 and Column 4 Lines 22-24);

b) a drain region (See Figure 4 and Column 3 Lines 31-47); and

c) a body (110) coupled to the semiconductor device such that a drain region is exposed (See Figure 4).

In regards to claim 1, Cheah fails to disclose the following:

a) at least two dies, a first which is coupled to the first source and gate attach areas and a second which is coupled to the second source and gate attach areas.

However, Tandy discloses a semiconductor device that has two dies (See Figures 2 and 5). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor of Cheah to include at least two dies as disclosed in Tandy because it aids in providing a more compact package.

In regards to claim 4, Cheah discloses the following:

a) the drain connection assembly comprises a drain clip (28) and a lead rail adjacent an edge of the drain clip (See Figure 3).

14. Claims 2 and 3; as far as understood, are rejected under 35 U.S.C. 103(a) as obvious over Cheah et al. (U.S. Patent No. 6,040,626) in view of Tandy (U.S. Patent No. 5,986,209) and Kinsman (U.S. Patent No. 5,789,803).

In regards to claim 2, Cheah fails to disclose the following:

a) at least one of the dies is a bumped die.

However, Kinsman discloses a semiconductor device that has a bumped die (See Column 2 Lines 10-13). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor of Cheah to include bumped die as disclosed in Kinsman because it aids in providing an electrical connection.

In regards to claim 3, Cheah fails to disclose the following:

a) dies are bumped dies.

However, Kinsman discloses a semiconductor device that has a bumped die (See Column 2 Lines 10-13). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor of Cheah to include bumped die as disclosed in Kinsman because it aids in providing an electrical connection.

### ***Conclusion***

15. The following prior art made of record and not relied upon is considered pertinent to applicant's disclosure: a) Phy (U.S. Patent No. 4,791,473) discloses a plastic package for high frequency semiconductor devices; b) Liang et al. (U.S. Patent No. 5,233,131) discloses a semiconductor interconnect structure; c) Farnworth et al. (U.S. Patent No. 6,037,611) discloses attaching a leadframe to semiconductor die; d) Romero et al. (U.S. Patent No. 5,544,412) discloses a coupling a lead to a bond pad; e) Lynch et al. (U.S. Patent No. 5,763,952) discloses a

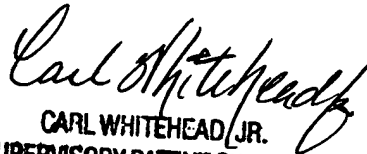
multi-layer tape having distinct power and ground planes; and f) Schoenfeld (U.S. Patent No. 6,066,515) discloses a multilevel leadframe.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monica Lewis whose telephone number is 703-305-3743.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead, Jr. can be reached on 703-308-4940. The fax phone number for the organization where this application or proceeding is assigned is 703-308-7722 for regular and after final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

ML

May 2, 2002

  
CARL WHITEHEAD, JR.  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800